



Smart Buildings

Buildings with intelligence






The world needs smarter buildings

Buildings are becoming smarter. The drivers for change are varied; and there's no doubt that our changing world demands new, intelligent technology-led solutions. The population is growing; our climate is changing; and natural resources are becoming increasingly scarce and more precious. At the same time, our government, market and customers are making ever greater demands on sustainable, healthy and flexible buildings. At Priva, we believe that the solution to all these challenges stems from innovation: in smart buildings that support users in the most efficient, comfortable and sustainable built environment possible.

“Smart buildings are more flexible, future-proof and commercially valuable”

The intelligence of a smart building refers to the ability of the systems in the building to actively respond to changing conditions, such as:

1. The needs of the building user
2. Management and maintenance of the building system
3. Changes in the energy grid (energy flexibility and storage)

A hand in a light-colored suit sleeve points towards a city skyline. The image is overlaid with a semi-transparent grid pattern. The background is a blurred cityscape with various skyscrapers under a hazy sky. The overall color palette is muted, with blues, greys, and soft skin tones.

*“The population is growing
our climate is changing,
and natural resources are
becoming increasingly scarce”*



The bigger picture

Smart buildings are part of a bigger picture that reinforces a whole range of sustainability and wellbeing outcomes. They also play an important role in energy transition. Because a smart building can use energy in a smart and flexible way, it means that they have the potential to be energy-neutral or even generate energy at the request of the grid operator.

Smart Grid

In a smart building, energy production and storage can be integrated into a smart grid – this means your buildings and systems can work intelligently to exchange, store and provide energy for other processes

Smart City

Smart buildings and smart grids can work together to form smart, self-sufficient neighbourhoods and cities which also support thriving, self-sustaining public spaces; sustainable transport systems; and food supply. Smart farming an efficient and sustainable way to produce clean, healthy and nutritious food that produces less waste to feed a hungry city.

Sustainable Urban Delta

When smart cities connect with surrounding smart cities and neighbourhoods, it creates a larger self-sufficient area. We call this a Sustainable Urban Delta. We're passionate that neighbourhoods can be self-sustaining with their own energy, water and local sustainable food supply in a healthy living environment.







What is a smart building?

A smart building uses integrated technologies to combine smart room, climate and building management with intelligent energy management. This results in better working and living environments and more sustainable energy use.

Internet of Things (IoT) sensors in smart buildings collect a wide range of valuable data. This information is used to control the building automation. Smart systems communicate with each other and learn from the data collected in order to predict future processes, optimise them and improve the user experience.

The future of buildings is all about intelligence. Over time, a smart building 'self learns' – which means it uses artificial intelligence to take the guesswork out of building management. The ultimate goal is a building with intelligence.

PRIVA Smart Building

Use Cases

Applications & APIs to make data valuable for users



Building operator

Building occupant

Maintenance company

Facility manager

Digital Services to support use cases



Smart Spaces

Smart Installation

Smart Energy

Digital Framework

Single point of access to manage connected applications

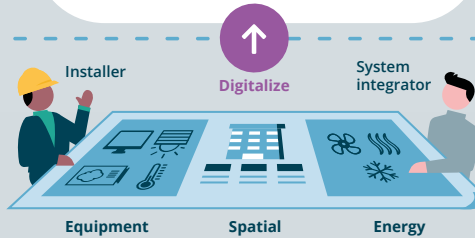


Safe and secure access to your building and its data



Physical Framework

Integration & control of equipment, smart devices & IoT



Equipment

Spatial

Energy

Framework of all devices



in all levels of the building and all its equipment



A smart building consists of 4 levels:



1. Physical infrastructure



2. Digital integration



3. Digitalizing building management teams



4. Digital services | A human centric approach

1. Physical infrastructure

The foundation for any smart building is a climate installation of hardware that typically includes sensors, actuators and controllers. Together, these elements offer optimal integration, control and monitoring of a building's operational equipment.



2. Digital integration

Smart buildings have a smart and connected digital infrastructure. Recent innovations in artificial intelligence (AI) based digital-twin technology that predict, automate and control energy flows and optimise indoor climates for healthier environments have demonstrated the potential for buildings to be energy neutral – or, in some cases energy positive. This means that they have a positive environmental footprint and the right balance has been achieved between spaces used, the energy flows and the use of smart devices. This kind of intelligent building innovation is pushing boundaries and changing the way we approach the built environment. However, economic turbulence means that the implementation of these systems is often a challenge. That's why you need an experienced partner to make the transition as seamless as possible.



3. Digitalizing building management teams

Whether you are a building owner, facility management team or a building operator - finding ways to look after your estate and your building users' needs will be your top priority. This is why a truly smart building is designed to expand upon the technology (hardware and software) to empower the performance and simplify the operational processes for all stakeholders. For example, smart sanitization, proactive crisis response and timely synchronization between teams can achieve smarter, easier and more effective management of the building. And it can help to reduce operational costs, increase the lifespan of building equipment and increase the value of the building for its owner.



4. **Digital services | A human centric approach**

A smart building supports a more human centric approach to building management. Data from the building can be integrated with third-party applications to enhance the convenience and day-to-day experience of building users in an increasingly digitalized world. For example, it is possible to provide location-based navigation to an available parking space; and it's easy to book a meeting room or desk space room from inside a building at the last moment. Partnering with a company that enables this migration of a building's data through a secure cloud environment you can make smarter, more efficient building management a reality.





Connect

Creating a connection with and between people

A smart building creates a connection between your people and your building. This can increase productivity, make collaboration easier – and even help your employees to use the workspace and their time more efficiently. In a connected workspace, it's also easy to provide things like digital signage, wireless charging or printing, conference call facilities and concierge services.



Control

Better control of rooms, facilities, building systems and operations.

A smart building improves the way you control the systems in the building, such as the climate, lighting and (cyber) security. For building managers and facilities managers, this added layer of insight and control makes it much easier to manage space and energy resources - efficiently. With your heating, cooling, lighting, security, maintenance and indoor climate operating at an optimum level, the potential for cost savings is significant.





Conserve

Saving on resources such as space, energy and water

Smart buildings play a critical role in reducing energy consumption in our built environment. Energy production and storage work in harmony with shifts in demand; and energy can be balanced – intelligently - to meet inputs from renewable sources and the grid.

With greater control and insight into your building performance, you're able to make informed decisions as part of your energy consumption strategy. For example, by adapting the way you use and allocate space according to occupancy levels, you can eliminate energy waste and enjoy considerable operational efficiency savings.



Collaborate

Optimal support for digital collaboration between people

Smart building technology supports positive collaboration between colleagues. Connected workplaces that register and respond to the presence of co-workers make it much easier to instigate interactions. For example, smart boards and smart conference rooms, together with video conferencing and virtual meeting walls, enable remote-based colleagues to take part in creative collaborations. The use of real-time data analytics and digitally integrated furniture allows for new levels of employee engagement.



Priva is creating a climate for growth

Buildings that combine energy flexibility and connectivity provide a solution to some of the biggest challenges we face as a generation. Which is why Priva has a major role to play in supporting buildings of the future. Thanks to our unique combination of hardware, software, a cloud platform and digital services, we help you achieve your goals with one integrated system.

Priva offers all the hardware you need for your smart building. Ideally, a network of smart sensors and other control technology is installed during the construction or thorough renovation phase, when access to your services is easier. Over time, as your needs change or your estate expands, you can add any additional software applications. You'll always benefit from the latest technology, without the need for additional investments in hardware and installation.

You can use the latest technologies effortlessly: anytime, anywhere and from any device.

Thanks to our suite of Priva Digital Services, system accessibility, scalability and resilience are assured. All of our digital solutions are easily operated in a single suite – and you're also able to control the building independently of the cloud which means the comfort of your building is always guaranteed.

The data from your smart building is accessible in the cloud via our cloud connector, the Priva Edge Gateway. The performance and flexibility of the cloud allow you to work faster, more securely and more cost-efficiently. Of course, network security is vital; so, we ensure that your data and services are always safe and up to date.

A woman with her hair in a ponytail is shown in profile, looking at a tablet. The background is a blurred cityscape with a blue tint. The overall mood is professional and tech-oriented.

*“We ensure that
your data and
services are always
safe and up-to-
date.”*



How can you make your building Smart?

With Priva's customizable selection of building automation technologies, there are four key stages to a smarter, more intelligent building and this is how Priva helps you realise your potential.

1. Leading edge Priva hardware and software building technology

Through the installation of Priva sensors, controllers, and secure digital cloud services; building operators and occupants can embark on the journey towards realising the benefits of a smart building. This is achieved with real-time measurement, control and monitoring of key data values in the building. Priva's digital services packages go a step further, with data insight, key strategies to reduce energy are easily shown.

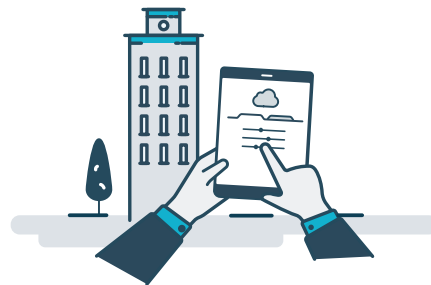
At Priva we help you completely optimize the way a smart building generates, purchases, stores and distributes energy. Our digital

service solutions combined with our hardware and sensors gives an in-depth dive into the energy insight needed to understand what actions to take that will directly reduce energy consumption, improve operational efficiency and even maximise the use of energy from the energy grid, within the building and per zone.

2. Priva's Digital Service infrastructure (AI and digital twin technology via secure cloud environments)

Reliable, proven and future proofed hardware is important; but empowering that hardware through secure cloud based digital technology empowers its full potential. At Priva, we use a secure cloud-based software, encrypted through Microsoft's Azure to sit on top of your existing building management system. By fulfilling the standard needs of the market (monitoring, data gathering and control) we take this a few steps further.

We use software embedded with AI and digital twin technology to gather data from a range of sources to gain insight into your energy usage and then automatically steer your data-driven climate on a path that reduces your CO2 emissions, energy wastage and increase savings up to 40%.




3. Priva API's and smarter building operation

Smarter Energy Management through Priva's API's allow building operators to re-purpose the energy flow within a building through greater insight into energy management and integration with real-time and historical data. This is especially useful for building operators and facility management teams that use facility management information systems to plan maintenance based on operating hours, maintenance data and insight into a building's operational equipment such as heat pumps, boilers and actuators.

4. Priva API's, a human centric approach

There are numerous third-party applications such as room booking, colleague finding, data-driven cleaning and smart parking that offer enhanced convenience for building occupants and visitors. Building operators can decide which options are available for the visitors and occupants of their building. For applications to work optimally they need to be able to gather the data. This is where Priva helps you by providing a secure environment to migrate data measurements (i.e. light intensity, noise, air quality, temperature) through the cloud from multi-sensor nodes such as those from bGrid meticulous data measurements on

light intensity, noise, air quality, humidity and temperature among others) and installed hardware to sync through a secure cloud based digital platform to monitor the behaviour of the inhabitants of the building to truly realise the potential of enhancing convenience of people's lives through the power of technology.

A conceptual image featuring a hand in a blue sleeve holding a glowing horizontal bar. The background is a composite of a cityscape, including the Gherkin and The Shard in London, and a white architectural wireframe of the same city. The scene is overlaid with a light blue grid and glowing dots on the right side.

*...enhancing
convenience of people's
lives through the power
of technology.*



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